

**REMARKS**

Claims 1-79 are all the claims pending in the application. All claims stand rejected. Reconsideration of the application and allowance of all claims are respectfully requested.

In paragraphs 5 and 6 of the Office action, the examiner has rejected claims 49, 50, 73, 76 and 79 under as non-statutory under 35 USC 101. This rejection is respectfully traversed.

The examiner has misstated the USPTO policy on “computer readable medium.” A program per se is not statutory subject matter. A computer readable medium is an article of manufacture. If the computer readable medium stores non-functional descriptive material, it is non-statutory. But if the descriptive material stored/carried on the computer readable medium is in fact functional, the claim is statutory. All of the is explained quite clearly in the first two paragraphs of MPEP 2106.01. While it is believed unnecessary, independent claims 49, 50, 73 and 76 have been amended to explicitly refer to a computer readable medium, the same terminology used in MPEP 2106.01. In accordance with the explicit guidelines set forth in MPEP 2106.01, withdrawal of the Section 101 rejection is requested.

In paragraphs 7-8 of the Office action, the examiner rejects claims 74-79 as unpatentable over Kim et al in view of Luyster. For claims 74-76, this is the same rejection as stated in the previous Office action. Claims 77-79 are newly added claims. This rejection is respectfully traversed.

Claims 74-76 are directed to the simultaneous use of different parts of a signal to address respective lookup tables. The examiner acknowledges that Kim does not teach the use of lookup tables. The examiner cites Luyster for its teaching of look-up tables, but the novelty in claim 74

is not simply the use of a lookup table but the use of plural lookup tables in parallel, with each lookup table addressed by a different portion of a single input. This novelty is stated at lines 22-27 of page 2 of the present application as filed.

In Section II at page 3, the examiner reads the claimed first and second sets of bits on the upper 32 bits and lower 32 bits of the 64-bit input in Kim, but the central point of claim 74 is that lookup tables are accessed in parallel, and it is clear from the description of Fig. 1 at page 7 of Kim that the upper set of bits from MUX 110 is passed through both of the boxes 160 and 170 first, and then the lower set of bits is processed. There is no simultaneous processing of the type that claim 74 is directed to. Thus, even if lookup tables as taught by Luyster were used in Kim, the result would not be the simultaneous use of plural lookup tables addressed by different parts of a common input.

In paragraph 8 at page 7 of the Office action, the examiner states that his reading of the claim language on Kim assumes that “simultaneously is interpreted to be equivalent to in parallel,” but this is not always true, and is in fact not true in the present case. In Kim, the upper and lower sets of bits are split into parallel paths, but then the upper set of bits is processed first, and then the lower set of bits. And the processing of the lower set of bits requires first processing the upper set, so the two sets *cannot* be processed simultaneously.

Further, in claim 74, each input has at least one bit used to address a lookup table, and according to claim 77 an additional input bit from one of the same inputs from which the lookup table addresses are taken is then used to select from amongst plural lookup table outputs. Claims 78-79 recite a similar feature.

77-79 recite the feature of having input bits used to select from amongst plural lookup table outputs. This is not found anywhere in Kim. It is noted that, although the introduction of paragraph 8 states that claims 74-79 are rejected, the supporting discussion refers only to claims 74-76. So it is assumed that the inclusion of claims 77-79 in this rejection is a typographical error, in that claims 77-79 are instead included in the rejection stated in paragraph 9 of the Office action.

In paragraph 9 of the Office action, the examiner rejects claims 1, 2, 5, 6, 11-13, 16, 21-28, 30, 31, 33-42, 44, 45, 47-73 and 77-79 as unpatentable over Kim et al in view of Luyster and further in view of 3GPP. This is the same rejection as stated in the previous Office action, except that the examiner has now additionally relied on 3GPP.

In paragraph 10 of the Office action, the examiner rejects claims 3, 4, 7-10, 14, 15, 17-20, 29, 32, 34, 43 and 46 as unpatentable over Kim et al in view of Luyster and 3GPP, and further in view of Weybrew. This is the same rejection as stated in the previous Office action, except the examiner has now additionally relied on 3GPP. See below.

The rejections in paragraphs 9 and 10 are respectfully traversed.

Claim 1 describes each input as including a first set of bits used to access a lookup table, with first sets of bits from plural inputs accessing plural lookup tables to collectively obtain a set of outputs, and then one of the outputs from the set of outputs is selected using a second set from at least one of the inputs. The examiner refers to 3GPP as teaching the output of a first string used as an input to a second, but that is not what is required by the "selection" operation referred to in claim 1. Thus, the additional reference does not make up for the deficiencies already pointed out relative to Kim and Luyster.

Specifically, claim 1 requires plural inputs each having first and second sets of bits. The examiner reads the upper and lower sets of bits in Kim as the first and second sets of bits, but that means there is only one input shown in Kim. Not the plurality of inputs required by claim 1.

Further, if the upper 16 bits is the first set of bits and the lower 16 bits is the second set of bits, then in order to satisfy the requirements of claim 1 it would be necessary that plural sets of upper bits each be used to access respective lookup tables to collectively obtain a set of lookup table outputs, and then one of these outputs is selected using a bit from a lower set of bits. Luyster teaches lookup tables, but does not teach the other subject matter missing from Kim, e.g., the plural inputs or the accessing of plural lookup tables in parallel by the first sets of the plural inputs, or the selection of one of the lookup table outputs. So adopting the teaching of Luyster in Kim would result in a single lookup table accessed by the single first set shown in Kim.

The examiner relies on 3GPP to teach this final selection, but there are two problems with this. First, there are no plural outputs to select from in Kim. Second, the examiner notes that 3GPP teaches that the output from the first bit string are used as inputs to the second string.” But this is not what is claimed. Claim 1 does not state that the output from one string is used as an input to a second string, but rather that a bit from the second set is used to select from amongst plural lookup table outputs. This is simply not shown in 3GPP.

Claims 12, 49, 51 and 77-79 recite the same distinctive features and distinguish over the prior art for the same reasons.

Regarding claim 21, that claim recites a plurality of inputs and the selection of a subset of bits from each input to use to access a respective lookup table, and then the combining of the

lookup table outputs to obtain at least one bit. Kim does not teach the plurality of inputs, but according to the examiner a single input having first and second sets of bits. And again, the examiner cites 3GPP as teaching the use of the output of one bit string as an input to a second string, but this is not what is explicitly recited in claim 21, which is the combination of lookup table outputs (not using an output of one as an input to another).

Claims 35, 50, 51 and 59 distinguish over the cited art for the same reasons.

Claims 55, 64 and 73 all recite that for each of plural first inputs and in parallel with other first inputs, accessing a lookup table using the input. As discussed above in the context of claim 74, Kim shows only one input, and even if one looks at the upper and lower sets of bits as separate inputs, they do not access lookup tables in parallel, but rather first one set and then the other set is processed. The secondary references do not make up for this deficiency.

For all of the reasons given above, it is submitted that the subject matter of the pending claims is neither shown nor suggested in the art of record, and allowance of all claims is requested. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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